



FACULTY OF ENGINEERING **UNIVERSITI MALAYSIA SARAWAK**

STRATEGIC PLAN **2014-2018**



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*Alhamdulillah wa rahmatullahi
wabarakaatuh.*

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he Strategic Plan 2014-2018, is indeed an important document which describes the Faculty of Engineering determination to continuously reform the important aspects of Teaching and Learning as well as Research and Innovation, in line with the Ministry of Education's National Higher Education Strategic Plan. The five year plan shall see the implementation of several initiatives that will ensure the Faculty of Engineering, in collaboration with its major stakeholders, to make significant improvements in providing highest quality engineering education to the student. This is only possible through a dynamic and innovative education system, specialising in its niche research areas for the benefit of Engineering Community specifically and to the Nation in general.

The Strategic Plan 2014-2018 has been formulated to meet the objectives of Pelan Strategik Pengajian Tinggi Negara (PSPTN) and UTMAS vision and mission. The Faculty of Engineering aims to produce technically strong engineers with good ethics, creative and innovative personality as well as sound interpersonal skills. The well planned strategies, coupled with dedication and commitment of the faculty members will ensure these objectives are realized.

The Faculty of Engineering has always been known to be a leading faculty in establishing strategic collaborations and linkages with stakeholders nationally and internationally. With these collaborations and linkages, the Faculty would be able to meet the objectives of the strategic plan within five years. The Strategic Plan 2014-2018 provides the blueprints to ensure that the planning, implementation and monitoring are in place and the objectives are successfully achieved.

In addition, the Strategic Plan 2014-2018 also provides greater emphasis to expand non-formal education and to disseminate lifelong learning within the local community. This also allows the emphasis on the excellence quality of the teaching and research being conducted by the faculty members and graduates through continuous quality improvement. At the same time, one of the key components in the strategic plan is the capacity building of academic and non-academic staff.

With this, I would like to wish everyone associated with the Faculty of Engineering, all the best in their endeavor in striving for excellence in higher education, the university administration affirms its support to the Faculty in order to achieve the objectives outlined in the Strategic Plan 2014-2018.

Professor Datuk Dr. Mohamed Kadim Bin Suaidi
Vice-Chancellor



FOREWORD



*Keutuhan masyarakat warukamustallahi
wabarukatah, Salam Sepaktakraw
dan Salam 1 Malaysia*

T

he Faculty of Engineering has an important role to play in the development of the University, the State and the Nation. In order to fulfil their expectations, a well-defined and comprehensive strategic planning is required. The present strategic plan is an effort in this direction. The Faculty has gained over the last 20 years incredible achievements. The Faculty celebrated its 20th anniversary in the year 2013. It is obvious for the coming years the trend of the last 20 years has to be equalled or improved. The proposed strategic plan suggests seven strategic thrusts that would play a key role to steer the Faculty in the direction which is demanded by its stakeholders.

The focus provided by our previous strategic plans has helped us to achieve the success we now enjoy; this is the reason that our new Strategic Plan 2014-2018 is at the very core of our further aspirations. Our new plan sets out the guidelines how we realize to overcome the challenges faced by the university and to embrace the opportunities. In order to deliver this plan we need to be ever more responsive to our attitude towards our duties and should be increasingly agile in our approach. Positioning ourselves at the forefront of future technology trends is crucial to meet the needs of our increasingly diverse population of staff and students and to compete successfully within the country and the world.

We are reaping the rewards of significant investment in UNIMAS and wider infrastructure as our graduates and our diverse research continues to receive international acclaim. The Faculty aspires to become a leader in the fields of engineering and innovation. Our recent collaboration with several world class national and international universities and governmental and non-governmental organizations have fortified the Faculty to build on its glorious international achievements and thus contribute its scientific and social fruits to the society. These achievements, coupled with a strong financial performance, enabled us to invest and to support our strategic aims and objectives. Our academics are among the keys for the cutting edge research to develop innovative solutions to the world's most challenging problems. Our priorities for the delivery over the next five years are set out against this background and are shaped by our commitment to social and environmental responsibility and quality, widening participation and good governance. These salient measures along with strong determination of the faculty members and supportive staff give us confidence that together we will achieve our ambitions for the future.

Professor Dr. Wan Hashim Wan Ibrahim
Dean of Faculty of Engineering

Faculty of Engineering was officially incorporated on 30th December 1993. This was one of the pioneer faculties of UNIMAS and at present is an important member of the eight faculties under the umbrella of the UNIMAS. The vision and mission of the Faculty are devised to support quality graduates, who will serve for the benefit of the community and nation through their high impact research and exemplary leadership. The faculty can provide a culture of continuous improvement through holistic curriculum and strategic research involving stakeholders' participation that is delivered by scholarly faculty members who contribute towards knowledge creation.

Currently, there are eight programmes offered by the Faculty of Engineering:

1. Bachelor of Engineering with Honours (Civil Engineering)
2. Bachelor of Engineering with Honours (Electronic and Telecommunication)
3. Bachelor of Engineering with Honours (Electronic and Computer)
4. Bachelor of Engineering with Honours (Mechanical and Manufacturing Engineering)
5. Bachelor of Engineering with Honours (Chemical Engineering)
6. Master of Engineering (Civil) by Coursework
7. Master of Engineering
8. PhD

All of these programmes are designed and offered to the graduates to enable them to meet all the essential requirements demanded by the job market. All of the programmes are continuously enhanced and updated in line with the needs set by the Engineering Accreditation Council (EAC). The programmes offered are tailored base on the needs from the stakeholders such as industries feedback through industrial advisory panels appointed, international external-examiner, alumni and also aspiration from the nation.

By the end of 2013, the number of undergraduate students enrolled in the Faculty of Engineering was 1356, whereas the number of graduate students rose to 122, which includes students registered for PhD and both Master by research and course work. With a short span of 20 years of its establishment, the academic staff grew to current number of 123 along with 62 supportive staff.

INTRODUCTION



The significant progress made since the previous strategic plan

ACTIVITIES ACCOMPLISHED	YEAR OF ACCOMPLISHMENT
Academic Program Accreditation	Since 2000
Engineering Week and Career Fair	Yearly since 2007
Establishment of Centre of Excellence (CoERE)	Established on 2007
QMS Establishment	2008
Setting up of new units under Academic and Research	2008 (Academic's Units) and 2012 (Research & Development's Units)
Flagship Conference	Engineering Conference (EnCon) were held since 2007
Establishment of new department and program	Since 2008
Offering of Master of Engineering (Civil) by Coursework	Since 2010
Publication of UNIMAS e-journal of Civil Engineering (UJCE)	Since 2011
Participation in Competitions	Yearly
Industrial and University Linkages	Yearly
Setting up of Faculty's Expert Panel	2012
Postgraduate Accreditation	2013
Setting up of Engineering Post Graduate Association (EPSA)	2013
Setting up of new Strategic THRUST	2014

Preparing Engineers for Green and Sustainable Development is the Faculty's answer to the national requirements as well as global need of the time. Equipping and guiding our students to a lifelong quest for knowledge and learning and to encourage them for an innovative, independent attitude is one of the major goals of the faculty. This will provide them with an aspiration to achieve success within and beyond the university in order to seize the opportunities and to address the challenges of today.

Faculty of Engineering is a comprehensive faculty firmly rooted in UNIMAS, and an overarching thrust for this plan (2014-2018) is to increase our national and international impact and our contribution to the society. In order to achieve this, the Faculty has outlined seven Strategic Thrusts as follows:



**Curriculum
Quality and
Standard**



**Quality of
Research and
Development**



**Industrial
Linkages and
Consultancy**



**Knowledge
Transfer and
Community
Engagement**



**Governance
and
Management**



**Human Capital
Development**



Recognitions

The Strategic Thrusts require the support and commitment of all professional and supporting staff. The success of implementing these thrusts also lies on the effective management strategy established in the faculty. The Faculty of Engineering is on the threshold of a transformation which will see a bright future outlined by the proposed Strategic Plan 2014.

INTRODUCTION

OUR VISION

To be a leading Faculty with accredited programs producing quality graduates and benefiting the community and nation through high impact research and exemplary leadership

OUR MISSION

To provide a culture of continuous improvement through holistic curriculum and strategic research involving stakeholders' participation that is delivered by scholarly faculty members who contribute towards knowledge creation

EDUCATIONAL OBJECTIVES

1

Applying Engineering knowledge based on a solid foundation in respective Engineering areas for the needs of the stakeholders.

2

Uphold the professionalism and ethics of the Engineering profession in national and international arena.

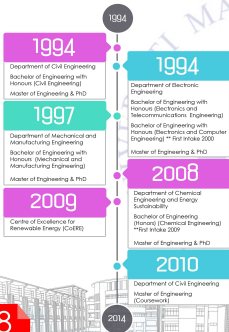
3

Possessing communication and interpersonal skills, to meet the nation's and stakeholders' aspiration.

4

Promote multicultural harmony and unity amongst different races and cultures by involvement in the technical or non-technical societies.

Departments and Program History



OVERVIEW OF FACULTY OF ENGINEERING



Departments' Niche Areas

Innovative Materials & Structural Engineering (IMASE)
Hydro-Environmental Engineering Research & Development (HERD)
Geotechnical Engineering Research Group (GERG)
Transport Infrastructure Planning & Sustainability (TIPPS)
Energy & Construction Management Group (ECOM)

Department of Civil Engineering

Advanced Manufacturing
Materials & Processes
Thermo-Fluids & Energy

Department of Mechanical & Manufacturing Engineering



Communication System & Technology
Microelectronics System Design
Green Computer Technology
Renewable Energy System & Technology

Department of Electronics Engineering

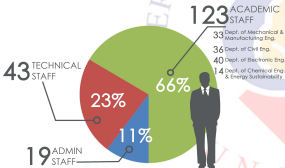


Sustainable Renewable Energy (SURE)
Fluid Transport & Separation Process (FTS)
Sustainability & Environmental Engineering (SEEN)
Material & Polymer Engineering (MAPE)

Department of Chemical Engineering and Energy Sustainability

Faculty Human Resources

Academic Staff

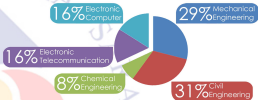


OVERVIEW OF FACULTY OF ENGINEERING



Undergraduate Students

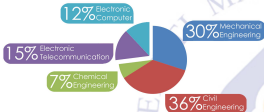
Percentage of Student's Yearly Intake



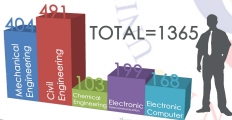
Number of Student's Yearly Intake Projection



Percentage of Active Students 2013/2014



Number of Active Students 2013/2014



OVERVIEW OF FACULTY OF ENGINEERING



Postgraduate Students

Postgraduate Students Intake



Active Students vs Graduated Students

